

Application Serial No. 09/126,897

Atty. Docket No. 003250-198

transmitting the optical signal on the optical fiber to the second terminal to be received in the second terminal as a received optical signal, and

in the second terminal:

converting the received optical signal to a converted electrical signal,

filtering the converted electrical signal splitting it into a high frequency portion and a low frequency portion, the high frequency portion comprising a signal corresponding to the electrical digital signal and the low frequency portion comprising a signal corresponding to the control digital signal,

performing operations inverse of those performed in the first terminal on the high frequency portion and the low frequency portion of the converted optical signal to provide signals corresponding to the electrical digital signal and to the control digital signal.

44. (New) A network comprising at least two terminals connected by an optical fiber, wherein

a first one of the at least two terminals comprises:

spreading means to spread a first electrical digital signal using a spread spectrum method to produce a spread signal,

modulating means connected to the spreading means for receiving the spread signal and arranged to modulate the spread signal on a radio frequency subcarrier having a non-zero frequency to produce a modulated electrical signal of a first frequency range around the radio frequency of the subcarrier,

adding means connected to the modulating means for receiving the modulated electrical signal and arranged to add to the modulated electrical signal a second electrical digital signal of a second frequency range to produce a sum signal, frequencies of the first frequency range being higher than frequencies of the second frequency range, and

converting means connected to the adding means for receiving the sum signal, connected to the optical fiber and arranged to convert the sum signal to an optical signal and to transmit the optical signal on the optical fiber; and

a second one of the at least two terminals comprises:

converting means connected to the optical fiber for receiving the optical signal transmitted on the optical fiber from the first one of the at least two terminals and arranged to convert a received optical signal to a converted electrical signal, and

filtering means connected to the converting means for receiving the converted electrical signal and arranged to filter the converted electrical signal splitting it into a high frequency portion, the high frequency portion comprising a signal corresponding to the first electrical digital signal and the low frequency portion comprising a signal corresponding to the second electrical digital signal.

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45. (New) The network of claim 44, wherein the second one of the at least two terminals further comprises:

radio frequency demodulating means connected to the filtering means for receiving the high frequency portion of the converted electrical signal and arranged to demodulate the high frequency portion of the converted electrical signal at the radio frequency to produce a demodulated spread spectrum electrical signal, and

spread spectrum demodulating means connected to the radio frequency demodulating means for receiving the demodulated spread spectrum electrical signal and arranged to spread spectrum demodulate the demodulated spread spectrum electrical signal to produce a digital electrical signal corresponding to the first electrical digital signal.